

WHAT IS CLAIMED IS:

1. A method of treating or preventing a disease or disorder involving cell hyperproliferation in a subject, said method comprising administering to a subject in which such treatment or prevention is desired a therapeutically effective amount of a molecule that inhibits TMEFF1 function.
2. The method according to claim 1 in which the disease or disorder is a malignancy.
3. The method according to claim 1 in which the disease or disorder is selected from the group consisting of bladder cancer, breast cancer, colon cancer, leukemia, lung cancer, melanoma, pancreatic cancer, sarcoma, and uterine cancer.
4. The method according to claim 1 in which the subject is a human.
5. The method according to claim 1 in which the disease or disorder is selected from the group consisting of premalignant conditions, benign tumors, hyperproliferative disorders, and benign dysproliferative disorders.
6. The method according to claim 1 in which the molecule that inhibits TMEFF1 function is an anti-TMEFF1 antibody, a TMEFF1 antisense nucleic acid, or TMEFF1 dsRNA.
7. The method according to claim 6 in which the molecule that inhibits TMEFF1 function is an oligonucleotide which (a) consists of at least six nucleotides; (b) comprises a sequence complementary to at least a portion of an RNA transcript of a *TMEFF1* gene; and (c) is hybridizable to the RNA transcript under moderately stringent conditions.
8. A method of treating or preventing a disease or disorder in which cell proliferation is desired, said method comprising administering to a subject in which such treatment is desired a therapeutically effective amount of a molecule that promotes TMEFF1 function.
9. The method according to claim 8 in which the molecule that promotes TMEFF1 function is a TMEFF1 protein; a fragment of a TMEFF1 protein containing two FS domains and an EGF domain; a nucleic acid encoding a TMEFF1 protein; and a nucleic

acid encoding a fragment of a TMEFF1 protein containing two FS domains and an EGF domain.

10. A method of diagnosing a disease or disorder characterized by an aberrant level of nodal, VG1 or BMP-2 signalling in a subject, said method comprising measuring the level of TMEFF1 RNA or TMEFF1 protein in a sample derived from the subject, in which an increase or decrease in the level of TMEFF1 RNA or protein, relative to the level of TMEFF1 RNA or protein found in an analogous sample from a subject not having the disease or disorder indicates the presence of the disease or disorder in the subject.

11. A method of diagnosing or screening for the presence of or a predisposition for developing a disease or disorder involving aberrant nodal, Vg1 of BMP-2 signalling in a subject, said method comprising measuring the level of TMEFF1 protein, TMEFF1 RNA or TMEFF1 functional activity in a sample derived from the subject, in which a decrease in the level of TMEFF1 protein, TMEFF1 RNA, or TMEFF1 functional activity in the sample, relative to the level of TMEFF1 protein, TMEFF1 RNA, or TMEFF1 functional activity found in an analogous sample from a subject not having the disease or disorder or a predisposition for developing the disease or disorder, indicates the presence of the disease or disorder or a predisposition for developing the disease or disorder.

12. A method of increasing cell growth in animals or plants comprising inhibiting TMEFF1 expression or activity in said animals or plants.

13. The method according to claim 12 in which the molecule that inhibits TMEFF1 function is selected from the group consisting of an anti-TMEFF1 antibody or a TMEFF1 binding fragment or derivative thereof, a TMEFF1 derivative or analog that is capable of being bound by an anti-TMEFF1 antibody, a *TMEFF1* antisense nucleic acid, and a nucleic acid comprising at least a portion of a *TMEFF1* gene into which a heterologous nucleotide sequence has been inserted such that said heterologous sequence inactivates the biological activity of the at least a portion of the *TMEFF1* gene, in which the *TMEFF1* gene portion flanks the heterologous sequence so as to promote homologous recombination with a genomic *TMEFF1* gene.

14. A method for differentiating mammalian stem cells into endodermal or mesodermal cell types, said method comprising contacting a mammalian stem cell *in vitro* with a molecule that inhibits TMEFF1 function at a concentration and for a period of time sufficient to cause differentiation of said mamallian stem cell.

15. The method of claim 14, wherein said mammalian cells are embryonic stem cells.

16. The method of claim 15, wherein said embryonic stem cells are human embryonic stem cells.

17. The method of claim 14, wherein said molecule that inhibits TMEFF1 function is an anti-TMEFF1 antibody, a TMEFF-1 antisense nucleic acid, or a TMEFF1 dsRNA.